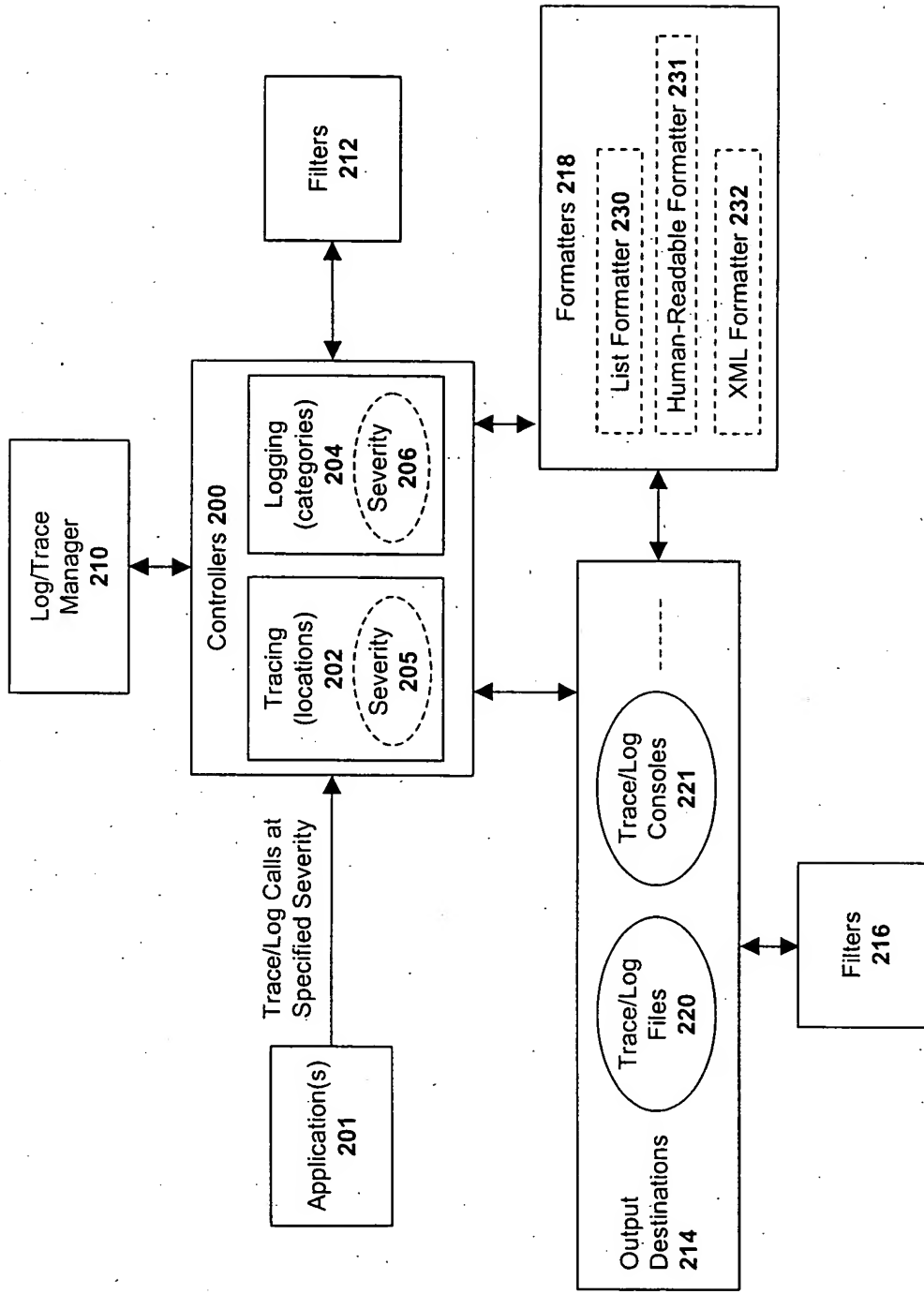
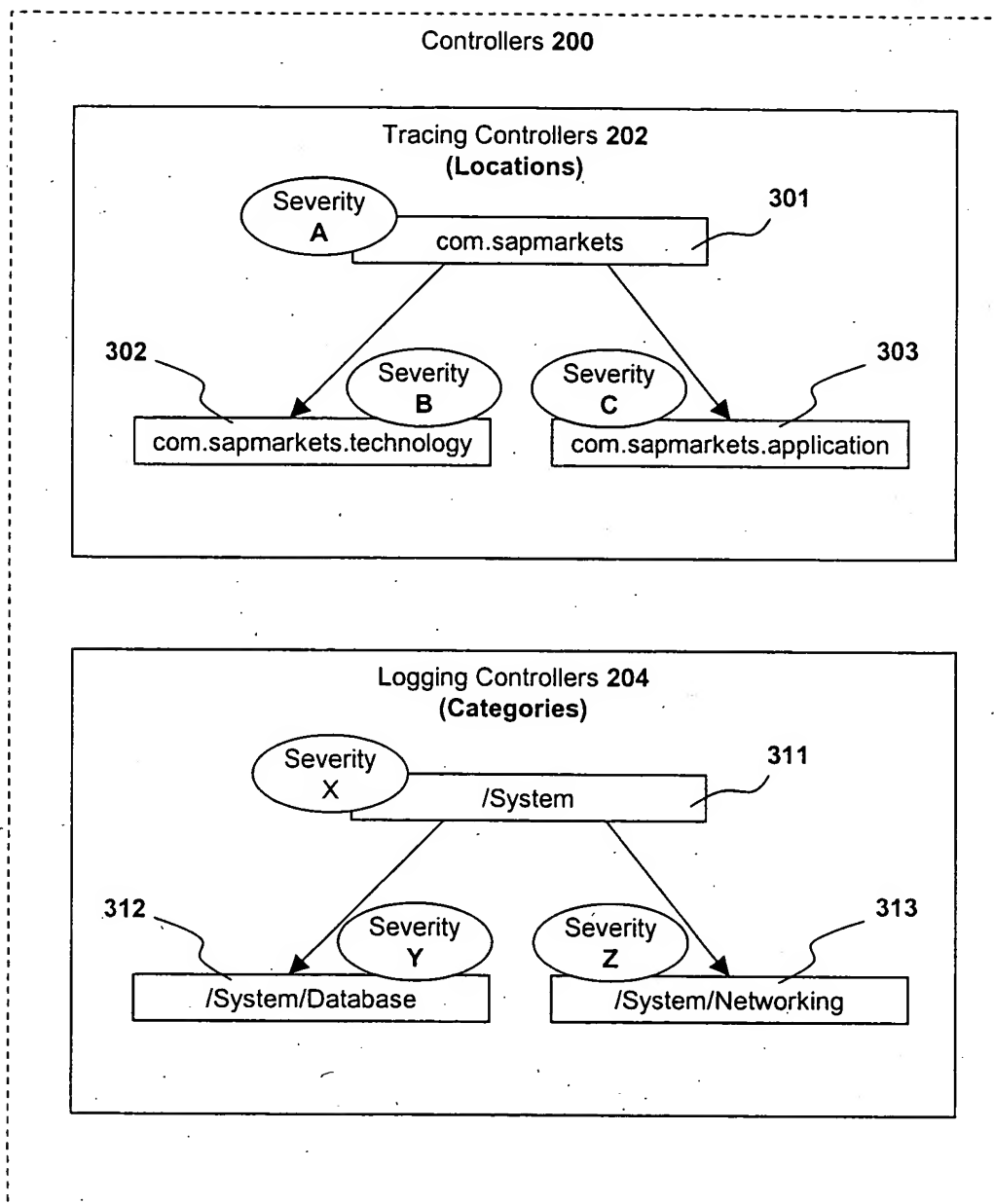


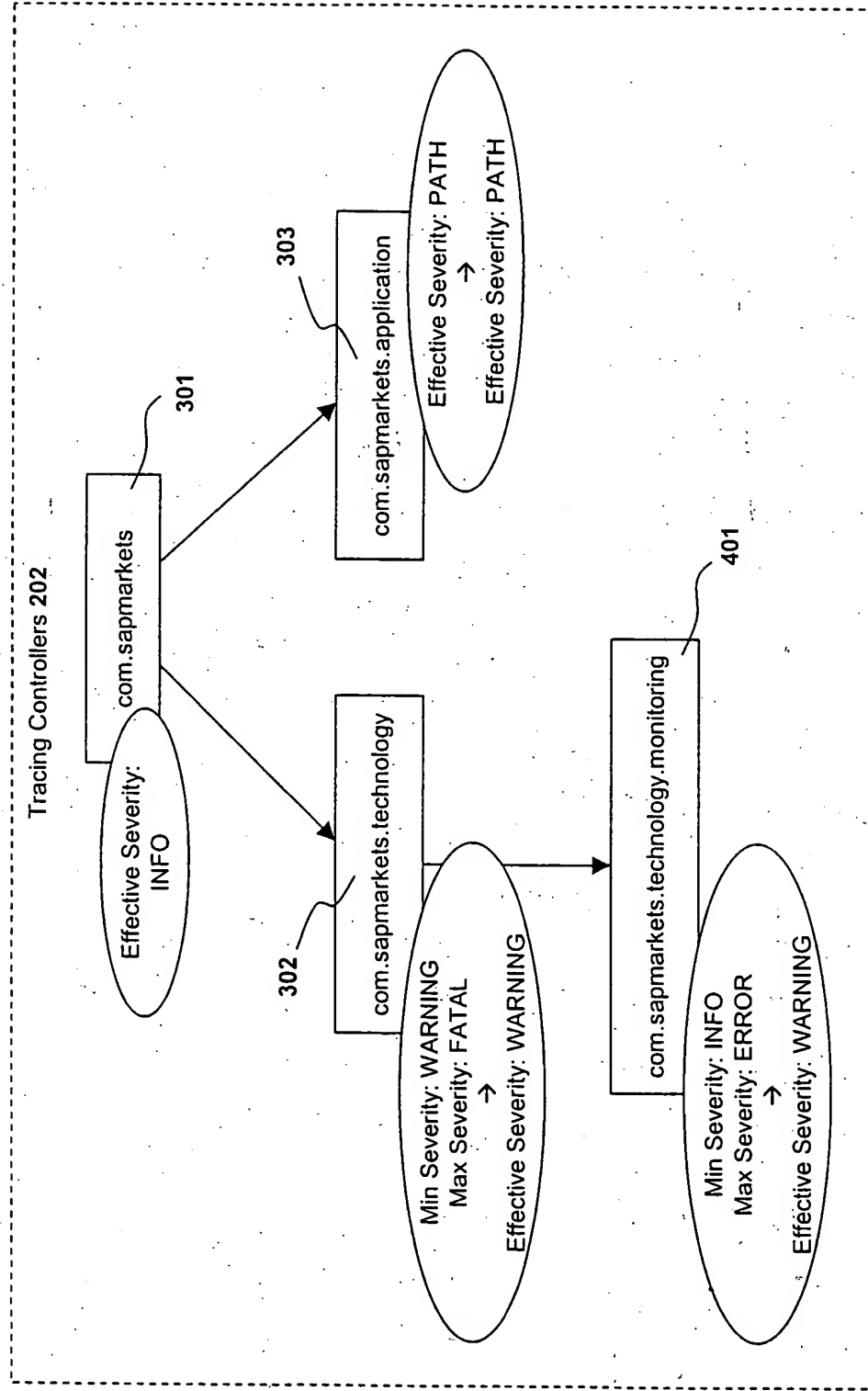
**Fig. 1**  
*(Prior Art)*



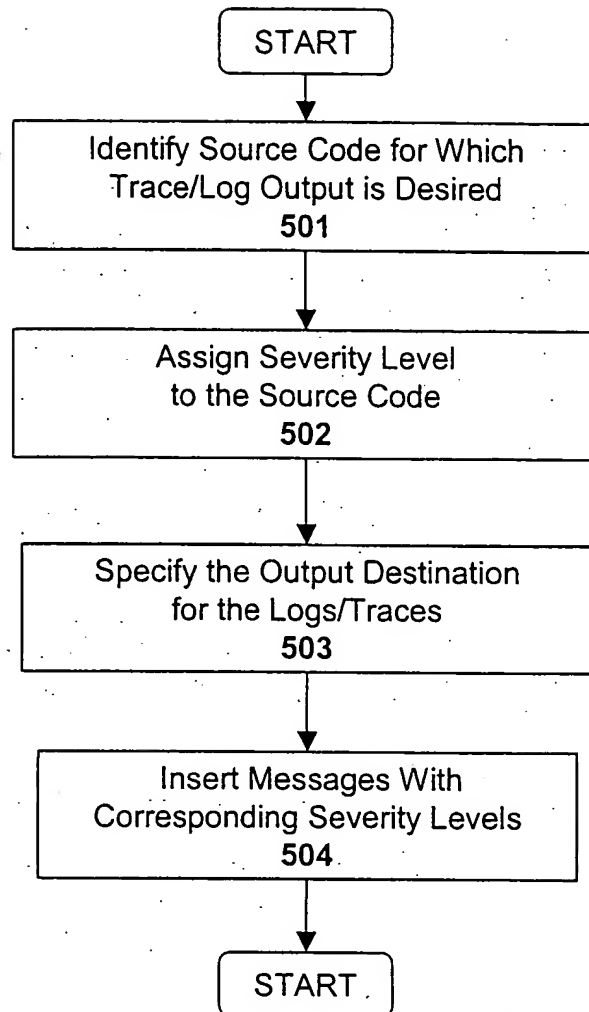
**Fig. 2**



**Fig. 3**



**Fig. 4**



***Fig. 5***

MIN	0	Minimum restriction
DEBUG	100	For debugging purpose, with extensive and low level information
PATH	200	For tracing the execution flow, e.g., used in the context of entering and leaving a method, looping and branching operations
INFO	300	Informational text, mostly for echoing what has been performed
WARNING	400	Application can recover from anomaly, and fulfill the desired task, but need attention from developer/operator
ERROR	500	Application can recover from error, but cannot fulfill desired task due to the error
FATAL	600	Application cannot recover from error, and the severe situation causes fatal termination
MAX	700	Maximum restriction

**Fig. 6a**

ALL	0	Output messages of all severity
NONE	701	No messages will be logged

**Fig. 6b**

```

710 → #####Location "com.sapmarkets.usermanagement"
      ##### Assign severity threshold to WARINiG level
      com.sapmarkets.usermanagement.severity ← 714 ← 716
      = WARNING
720 → ##### Now, specify Console as the destination to 'usermanagement'
      com.sapmarkets.usermanagement.logs ← 712 ← 722 ← 724
      = ConsoleLog
      700

```

*FIG. 7a*

```

Jan 3, 2002 6:54:18 PM com.sapmarkets.usermanagement.ClassA.method1[main] Warning: xxxxxxxx ....

Jan 3, 2002 6:54:18 PM com.sapmarkets.usermanagement.ClassB.method2 [main] Fatal: Unable to ....

```

*FIG. 7b*

```

805 → com.sapmarkets.usermanagement.severity = WARNING ← 815

#### Now, push messages simultaneously to 2 destinations:
#### a console and an output file
#### represented by a variable notation ← 825 → 830
com.sapmarkets.usermanagement.logs = log[Console], log[File1]

#### Set up a FileLog, for storing trace, with <id>: 'File1'
#### 'C:\\temp\\myTrace.txt' or 'C:/temp/myTrace.txt'
#### Dumping messages with the default format of TraceFormatter
log[File1] = FileLog
log[File1].pattern = C:\\temp\\myTrace.txt
log[File1].formatter = TraceFormatter

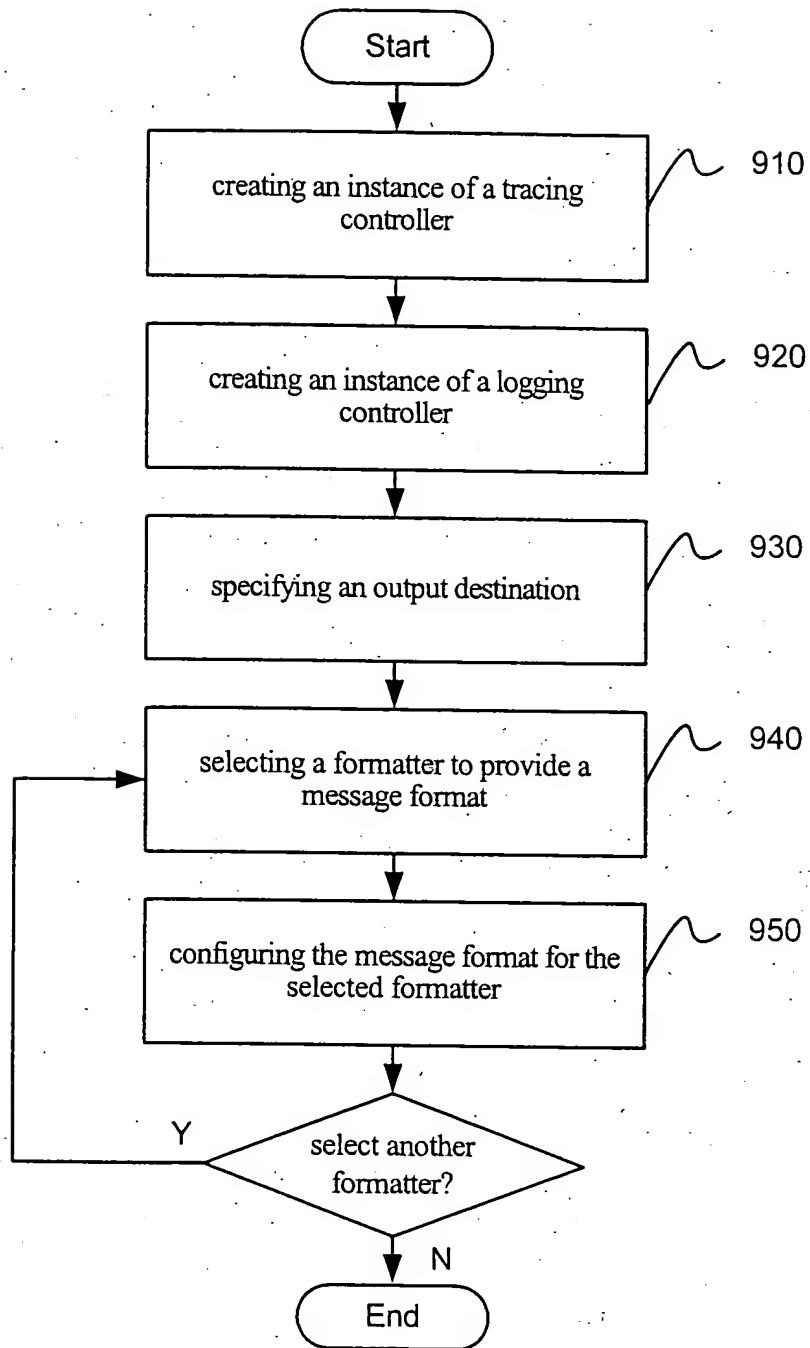
835 → ##### Set up a ConsoleLog, with <id>: 'Console'
##### Dumping message with self-defined format of TraceFormatter
log[Console] = ConsoleLog ← 845
log[Console].formatter = formatter[TraceNoDate] ← 840

850 → ##### Set up a TraceFormatter, with <id>: 'TraceNoDate'
##### and its pattern starts with the Severity level, and consists no date/timestamp
formatter[TraceNoDate] = TraceFormatter ← 860
formatter[TraceNoDate].pattern = %s: %-30l [%t]: %m ← 861 862 863 864 ← 865

```

FIG. 8





**FIG. 9**

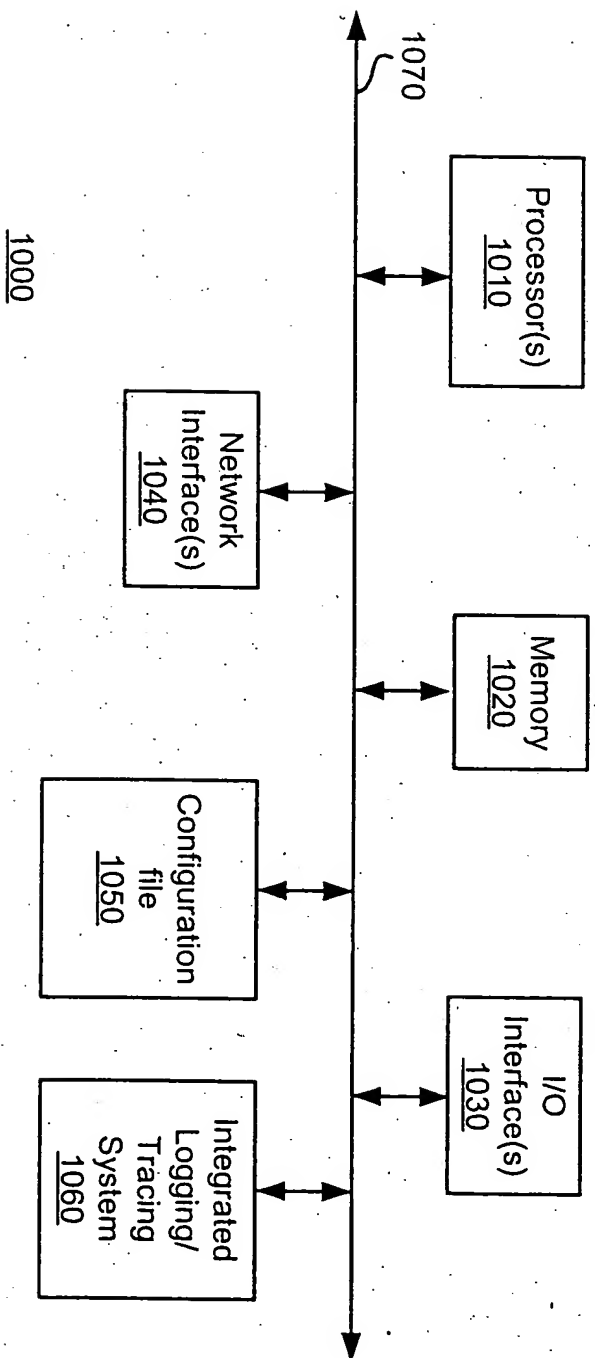


FIG. 10